

RS 15

The universal machine
for all tool types



Key parameters

The RS 15 is a manual universal grinding machine with integrated measuring device for rotationally symmetrical tools and indexable cutting inserts as individual pieces or low volume production. It machines tools up to 25 mm perimeter diameter for replaceable cutting inserts and up to 200 mm diameter for rotationally symmetrical tools.



Grinding



Eroding



Laser



Measuring



Software



Customer Care

Ewag AG

The origins of Ewag AG date back to 1946 when the company manufactured precision tool grinding machines for the Swiss watch industry. Today the EWAG product range includes manual machines for grinding and regrinding tools as well as the production of small precision parts, CNC tool grinding machines for grinding as well as laser machines for indexable cutting inserts and rotationally symmetrical tools made from carbide.

Ewag AG is part of the UNITED GRINDING Group. Together with our sister company, Walter Maschinenbau GmbH, we consider ourselves to be a supplier of systems and solutions for the complete machining of tools and can offer a wide range of products, including grinding, rotary eroding, laser machining, measurement and software.

Our customer focus and our global sales and service network of company-owned locations and employees has been appreciated by our customers for decades.

RS 15

The RS 15 six-axis universal grinding machine demonstrates how efficient manual high-precision grinding can be. Grinding and measuring in one clamping cycle as well as integrated dressing of the grinding wheels in combination with the fast tool changeover ensure high productivity.



Grinding



Grinding



Measuring

The RS 15 at a glance

Application

- Rotationally symmetrical tools up to 200 mm diameter
- Indexable cutting inserts from 3 mm inside diameter and up to 25 mm perimeter diameter.
- For production and/or regrinding
- Materials include HSS, carbide, cermet, ceramic, CBN, PCD

The machine

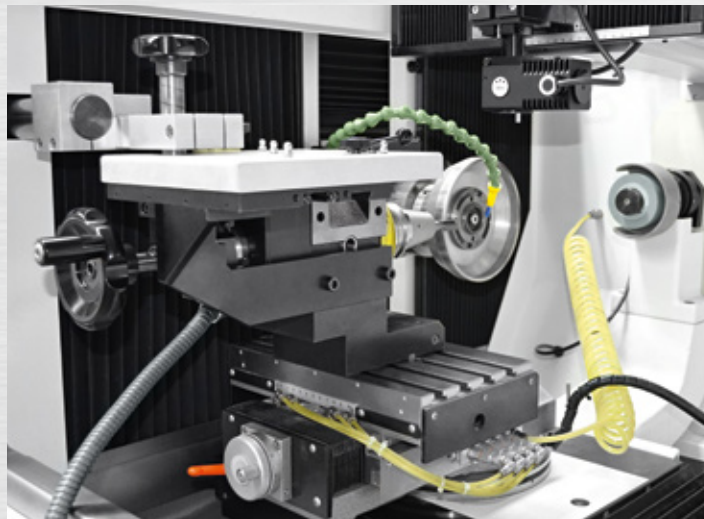
- Low-vibration grey cast iron machine base
- Linear axes X, Y, Z
- Rotation axes A, B, C
- TA 55 clamping system for rotationally symmetrical tools
- Measuring during the grinding process with projector and digital display
- Grinding and measuring in one clamping
- Integrated dressing of the grinding wheels
- Adjustable grinding pressure for super-hard materials
- Many options and accessories for a wide range of applications available



Universal grinding machine RS 15 for rotationally symmetrical tools and indexable cutting inserts, grinding and measuring in one clamping.

Geometries

- Convex radii and tangents with a constant or variable clearance angle up to 27°
- Constant profiles
- Sphere grinding
- Multi-facet grinding on gun drill



Flexibility through a choice of grinding attachments

The RS 15 can be fitted with grinding attachments for indexable cutting inserts or with a TA 55 dividing head for rotationally symmetrical tools. It can also be fitted with an AWS axis angle grinding attachment for grinding positive and negative angled PCD plates. The operator can freely choose between AWS, TA 55 and indexable cutting insert applications.

Manual and universal





The machine base of the RS 15 enables low-vibration high-precision grinding. Depending on the clamping system, rotationally symmetrical tools and production parts or indexable cutting inserts are produced. Quality consistency is increased by measuring the tool during the production process and also through the integrated dressing of the grinding wheels in combination with the fast tool changeover.



Tool examples:
Grinding on the RS 15

Details and options

Projector as a work coordinator

A projector in the operator's field of vision means that the tool can be visually positioned, measured and monitored in parallel to the grinding operation. This contributes significantly towards the high level of productivity of the RS 15. A camera system can be optionally specified instead of a projector.

1



2



3



Grinding wheel dressing attachment

The integrated dressing attachment dresses the grinding wheel in between tool changes. This increases the precision of the grinding wheels and improves the grinding quality.

Digital display

The operator can see all the positions of the six axes at a glance. He can see what is happening. The reference points can be set quickly and easily using the display.



Hand wheels for positioning

The linear axes are positioned in a micron-precise manner using hand wheels, which are within the operator's reach, as well as by using the digital display.



Control panel

Positioned ergonomically within the operator's reach and fitted with the latest electronics and electric technology, the operator can comfortably control the grinding operation from the control panel.

Grinding pressure stabiliser

Constant grinding pressure or contact pressure optimises the removal performance and is mandatory for grinding PCD tools. The operator sets the grinding pressure on the machine.



Tool holder cross table

This is the holder for all clamping systems. Ball screws for low-maintenance linear axes for ultimate precision. These axes can also be fitted with glass scales.



Accessories for greater flexibility



TA 55 universal dividing head

In the basic set-up the dividing head is fitted with a HSK 63 adaption. All the popular clamping systems on the market for rotationally symmetrical tools can be used with the TA 55.

Chamfer grinding attachment

This attachment is used to grind geometrical-ly-precise negative chamfers on indexable cutting inserts.

Universal 3CV clamping table

The tool holders can be tilted in two planes and rotated horizontally on the table. This enables two different clearance angles to be ground perfectly on the respective side.



Customer Care

WALTER and EWAG deliver systems and solutions worldwide for all areas of tool machining. Our claim is based on ensuring maximum availability of our machines over their entire service life. For this we have thus bundled numerous services in our customer care program.

From "Start up" through "Prevention" to "Retrofit", our customers enjoy tailor made services for their particular machine configuration. Around the world, our customers can use helplines, which can generally solve a problem using remote service. In addition to that, you will also find a competent service team in your vicinity around the world. For our customers, this means:

- Our team is close by and can quickly be with you.
- Our team will support you to improve your productivity.
- Our team works quickly, focuses on the problem and its work is transparent.
- Our team solves every problem in the field of machining tools, in an innovative and sustainable manner.



Start up

Commissioning
Extension of the guarantee



Qualification

Training
Support for production



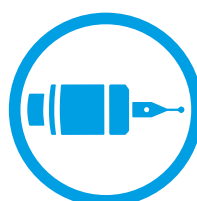
Prevention

Maintenance
Inspection



Service

Customer service
Customer advice
Helpline
Remote service



Material

Spare parts
Replacement parts
Accessories



Rebuild

Machine overhauling
Refurbishing of assemblies



Retrofit

Conversions
Retrofitting parts
Taking machines back

Technical data, dimensions

Axes

X axis	490 mm
Y axis	130 mm
Z axis	120 mm
A axis	- 10 to + 27°
B axis	235°

Workpiece slide Z

Contact pressure	0 – 400 N
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Oscillation on the lateral axis X

Oscillation size	0 – 70 mm
Oscillation frequency	0 – 60 strokes/min

Accuracy

Linear resolution	0.001 mm
Radial resolution	0.01°

Drives

Grinding spindle performance	2.2 kW
Grinding spindle speed	1,000 – 6,000 rpm
Max. grinding wheel diameter	150 mm

Tool data¹⁾

Clamping system for indexable cutting inserts

Various shapes and geometries

Clamping system for rotationally symmetrical tools

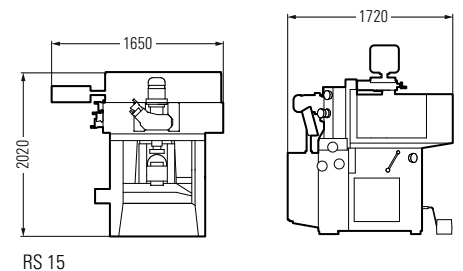
TA 55 dividing head	HSK 63
Axis angle grinding device AWS	HSK 63

Options

- AWS (Axis Angle Grinding attachment)
- Digital display
- Camera system/250 mm projector
- Dressing attachment
- Regeneration unit for grinding wheels

Accessories

- Clamping sets (HSK 63/ ISO40/ W31.75/ W25/ W20/ DSF-M)
- TA 55 dividing attachment
- Spherical grinding device 20 – 500 rpm
- Various grinding flanges
- Universal 3CV clamping table
- Chamfer grinding attachment
- Radius grinding device R150 – 400 mm
- Coolant system
- Coolant (emulsion)
- Additional accessories upon request



¹⁾ The maximum tool dimensions depend on the type of tool and its geometry, as well as the type of machining.

Measurements in mm. Subject to modifications due to technical progress and errors. No guarantee is provided for this information.

Creating Tool Performance

WALTER and EWAG are globally acting market-oriented technology and service companies, and are system and solution partners for all areas of tool machining. Our range of services is the basis for innovative machining

solutions for practically all tool types and materials typical for the market with a high degree of added value in terms of quality, precision, durability and productivity.



Grinding – Grinding of rotationally symmetrical tools and workpieces

WALTER machines	Use	Materials	Tool dimensions ¹⁾ max. length ²⁾ / diameter
HELITRONIC ESSENTIAL	P R	HSS TC C/C CBN	255 mm / Ø1 – 100 mm
HELITRONIC MINI POWER	P R	HSS TC C/C CBN	255 mm / Ø1 – 100 mm
HELITRONIC MINI AUTOMATION	P R	HSS TC C/C CBN	255 mm / Ø1 – 100 mm
HELITRONIC BASIC	P R	HSS TC C/C CBN	350 mm / Ø3 – 290 (320) mm
HELITRONIC POWER	P R	HSS TC C/C CBN	350 mm / Ø3 – 290 (320) mm
HELITRONIC POWER 400	P R	HSS TC C/C CBN	520 mm / Ø3 – 315 mm
HELITRONIC VISION 400	P R	HSS TC C/C CBN	370 mm / Ø3 – 315 mm
HELITRONIC VISION 400 L	P R	HSS TC C/C CBN	420 mm / Ø3 – 315 mm
HELITRONIC VISION 700 L	P R	HSS TC C/C CBN	700 mm / Ø3 – 200 mm
HELITRONIC MICRO	P R	HSS TC C/C CBN HSS TC C/C CBN	120 mm / Ø0.1 – 12.7 mm 120 mm / Ø3 – 12.7 mm

EWAG machines	Use	Materials	Tool dimensions ¹⁾ max. length ²⁾ / diameter
EWAMATIC LINEAR	P R	HSS TC C/C CBN PCD	200 mm / Ø0.2 – 200 mm
PROFILE LINE	P R	HSS TC C/C CBN	255 mm / Ø1 – 100 mm
WS 11/WS 11-SP	P R M	HSS TC	– / up to Ø25 mm
RS 15	P R M	HSS TC C/C CBN PCD	– / up to Ø25 mm



Eroding – Electrical discharge machining and grinding of rotationally symmetrical tools

WALTER machines	Use	Materials	Tool dimensions ¹⁾ max. length ²⁾ / diameter
HELITRONIC DIAMOND EVOLUTION	P R	HSS TC C/C CBN PCD	185/255 mm / Ø1 – 165 mm
HELITRONIC POWER DIAMOND	P R	HSS TC C/C CBN PCD	350 mm / Ø3 – 290 (400) mm
HELITRONIC POWER DIAMOND 400	P R	HSS TC C/C CBN PCD	520 mm / Ø3 – 380 mm
HELITRONIC VISION DIAMOND 400	P R	HSS TC C/C CBN PCD	370 mm / Ø3 – 315 mm
HELITRONIC VISION DIAMOND 400 L	P R	HSS TC C/C CBN PCD	420 mm / Ø3 – 315 mm



Software – The intelligence of tool machining and measuring for production and regrinding



Customer Care – Comprehensive range of services

Use: P Production R Regrinding M Measuring

Materials: HSS High speed steel TC Tungsten carbide C/C Cermet/ceramics CBN Cubic boron nitride PCD Polycrystalline diamond CVD-D Chemical vapour deposition MCD/ND Monocrystalline diamond/natural diamond



Grinding – Grinding of indexable inserts

EWAG machines	Use	Materials	Indexable inserts ¹⁾ Inscribed / circumscribed circle
EWAMATIC LINEAR	P R	HSS TC C/C CBN PCD	Ø3 mm / Ø50 mm
PROFILE LINE	P R	HSS TC C/C CBN	Ø3 mm / Ø50 mm
COMPACT LINE	P R	HSS TC C/C CBN PCD	Ø3 mm / Ø50 mm
INSERT LINE	P R	HSS TC C/C CBN	Ø3 mm / Ø75 mm
RS 15	P R M	HSS TC C/C CBN PCD	– / up to Ø25 mm



Laser – Laser machining of indexable inserts and/or rotationally symmetrical tools

EWAG machines	Use	Materials	Tool dimensions ¹⁾ max. length / diameter
LASER LINE ULTRA	P R	TC C/C CBN PCD CVD-D MCD/ND	250 mm / Ø0.1 – 200 mm
LASER LINE PRECISION	P R	CBN PCD CVD-D MCD/ND	250 mm / Ø0.1 – 200 mm

EWAG machines	Use	Materials	Indexable inserts ¹⁾ Inscribed / circumscribed circle
LASER LINE ULTRA	P R	TC C/C CBN PCD CVD-D MCD/ND	Ø3 mm / Ø50 mm
LASER LINE PRECISION	P R	CBN PCD CVD-D MCD/ND	Ø3 mm / Ø50 mm



Measuring – Contactless measurement of tools, workpieces and grinding wheels

WALTER machines	Use	Tool dimensions ¹⁾ max. length / diameter
HELICHECK PRECISION	M	420 mm / Ø1 – 320 mm
HELICHECK ADVANCED	M	420 mm / Ø1 – 320 mm
HELICHECK PRO	M	300 mm / Ø1 – 200 mm
HELICHECK PRO LONG	M	730 mm / Ø1 – 200 mm
HELICHECK PLUS	M	300 mm / Ø0.1 – 200 mm
HELICHECK PLUS LONG	M	730 mm / Ø0.1 – 200 mm
HELICHECK 3D	M	420 mm / Ø3 – 80 mm
HELISET PLUS	M	400 mm / Ø1 – 350 mm
HELISET	M	400 mm / Ø1 – 350 mm

¹⁾ Maximum tool dimensions are dependent on the tool type and geometry, as well as the type of machining.

²⁾ From the theoretical taper diameter of the workpiece holder.



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